DOCUMENT RESUME

ED 142 733 08 CE 011 676

AUTHOR Powell, Rod
TITLE Physical Therapist. Occupational Simulation Kit.
INSTITUTION San Juan Basin Area Vocational-Technical School, Cortez, Colo.
SPONS AGENCY Colorado State Board for Community Colleges and Occupational Education, Denver.; Office of Education (DHEW), Washington, D.C.; Western State Coll. of Colorado, Gunnison.
PUB DATE [76]
NOTE 39p.; For related documents see CE 011 670-672, CE 011 674-679, and CE 011 682-688

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS *Career Exploration; Health Occupations; *Physical Therapists; Programed Materials; Secondary Education; Simulation
IDENTIFIERS Colorado

ABSTRACT

This career exploration instructional booklet on the occupation of a physical therapist is one of several resulting from the rural southwestern Colorado CEPAC Project (Career Education Process of Attitude Change). Based on a job analysis and utilizing a programed instructional format, the following content is included: A brief description of a physical therapist's job responsibilities; case presentations of six patient situations; job-related information about what a therapist does and treatments used in patient care; 10 questions asking for specific decisions about the simulated patient situations; and answers to the questions. There are suggestions as to additional questions for students to explore and people to contact in this exploration process. The names and addresses of resources that can be consulted for additional information are included. (EM)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED142733

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

PHYSICAL THERAPIST

Occupational Simulation Kit

Career Education-
Process of Attitude Change

San Juan Basin Area
Vocational-Technical School
Cortez Colorado

2

OE 011 674

FOREWARD

This occupational simulation kit was prepared by Rod Powell, teacher at Mancos High School, Mancos, Colorado. The kit was the result of a job analysis and was developed based on the format by John D. Krumboltz as presented in the USOE Study Vocational Problem Solving Experiences for Stimulating Career Exploration and Interest. The CEPAC Career Education Project is a consortium in Southwestern Colorado administered through the San Juan Basin Area Vocational-Technical School including the school districts of: Dolores RE-4A, Dolores, Colorado; Mancos RE-6, Mancos, Colorado; Dolores County RE-1 J, Dove Creek, Colorado; San Juan County No. 1, Silverton, Colorado, Egnar No. 18, Egnar, Colorado, Montezuma-Cortez RE-1, Cortez, Colorado; Bayfield 10Jt-R, Bayfield, Colorado.

The reader should note that the simulation kit may not be adaptable to all situations. This material has been reproduced so that others may benefit from the endeavors of the author and the Career Education Project.

This publication was the result of cooperative efforts of ESEA Title III through the Colorado State Department of Education and Vocational Education Part D Exemplary through the Colorado State Board for Community Colleges and Occupational Education and Western State College.

The job of a physical therapist is to help people with muscles, nerves, joints and bone diseases. They do this through the use of exercises; mechanical apparatus, applications of heat, cold, light, sound, water and electricity to treat physical ailments.

Most cases are not simple, and they require a lot of time and effort. The physical therapist must perform tests on the patient to determine the correct treatment. He must also be able to keep accurate records of treatments he has performed and the effects of these treatments on the patient's condition.

In this kit, you will have a chance to do some of the work and make some of the decisions of a physical therapist. All of the information you need is in the kit. You will answer questions to test your understanding of what you read. Look back over any of the previous material any time you wish.

If you enjoy this kit, you might be interested in finding out more about a career as a physical therapist.

Before you can begin doing the work of a physical therapist, you must find out something about what he does.

Jim Parker is a typical physical therapist. One morning he is examining a new patient, Mr. Burton. Mr. Burton has been sent to the physical therapist by his doctor because he has trouble with his back.

"I went to the doctor because my back hurt. It has been stiff and aching for about two weeks. He said maybe you could help me get rid of the pain."

The first thing a physical therapist should do is find out how the patient was injured. He asks for details on how it happened.

"My brother was moving and I was helping him put his refrigerator in the truck. About two hours later, my back started hurting."

Now Mr. Parker knows something about the injury, how the injury happened, and some ideas of typed of treatment to use.

Mr. Parker may also look at x-rays of Mr. Burton's back to see if they show what damage is causing the pain. He will also examine Mr. Burton's back to see if there is any swelling or bruising.

Question 1

Which of the following are part of Mr. Parker's job?

a. Determining if a bone is broken.

b. Prescribing treatment for muscle problems.

c. Teaching exercises

d. Taking x-ray pictures

Write the letter of the best answer (s) on the answer sheet provided in the kit. Then turn the page and check your answer (s) with the correct answer (s) given there.

The correct answers are (b) and (c). If you marked either of these answers mark a (+) on your answer sheet. If you marked both of these, mark two (+'s) on your answer sheet.

Choice (a) is incorrect because determining if a bone is broken is a doctor's job. Answer (d) is incorrect because it is the x-ray technician's responsibility to take x-ray pictures.

On most cases, Mr. Parker would do some physical tests to be sure of the treatments. This case is one quite familiar to a physical therapist. The causes of Mr. Burton's injury are common and so are the methods of treatment.

You will find some of the most common treatments used by physical therapists listed below. Some, but not all, of these could be used in the case of Mr. Burton.

Cold Packs: indicated by bruising, swelling, muscle spasms, and other acute pain and injuries.

Heat: indicated in more chronic or long-term cases.

Whirlpool: indicated by either acute or long-term pain, and can be made either hot or cold.

Electrical Stimulation: electrical current which forces involuntary muscle contraction and causes the muscles to relax.

Ultrasound: high frequency sound wave which is indicated by bruising, swelling, and pain caused by trauma. (Helps reduce redness)

(Another method of treatment is discussed on the following page).

Exercise: the most frequently used tool of a therapist. The types of exercise vary with the types of injury. One of the most important parts of a physical therapist's job is to teach people how to do exercises correctly to avoid injury, and how to use their bodies. One of the common exercise programs in cases like Mr. Burtons' is the William's Flexion Exercise Program.

Question 2

If you were the physical therapist, which of these treatments would you recommend? There may be more than one correct answer.

a. Ultrasound

b. Willian's Flexion Exercise Program

c. Electrical Stimulation

d. Cold Packs

Answer (b) is the most correct answer, since this exercise program deals with back trouble. Answer (c) would also be a correct answer, since electrical stimulation is a treatment to relax muscles. Give yourself one (+) for either answer (b) or (c), and two (+'s) if you put them both on your answer sheet.

In addition to these two treatments, Mr. Burton, would be instructed in correct posture. He would also be instructed in the proper way to lift any object: with the legs instead of with the back.

Proper use of your muscles is the science of body mechanics. If Mr. Burton had used good body mechanics, he would not have strained his back.

Now imagine you are a physical therapist. In your first case you will have a chance to prescribe treatment depending on the symptoms of your patient.

Mr. Redding was sent to you from his doctor. He is walking on crutches, his ankle wrapped in a stretch-type bandage.

Question 3

What would you do first as a physical therapist?

a. Find out more about the accident that caused the injury

b. Have the patient get an x-ray to find out if the ankle is broken.

c. Tell Mr. Redding what treatment he will be receiving.

d. Talk to the doctor who sent Mr. Redding to you and see what has already been done.

Answers (a) and (d) are correct. You would have to do both in search for the correct procedure for treatments. Answer (c) is totally wrong. Remember, the physical therapist would have x-rays done only after checking with the patient's physician. There may be a medical reason (such as an early pregnancy) for advoiding x-rays. In addition, the patient's physician may have already taken x-rays of the ankle, and duplication of these would be a waste of time and effort.

After further questioning, you have found out that Mr. Redding hurt his ankle in a skiing accident the day before yesterday. He went to his family's physician, who took an x-ray and found that the ankle was not broken. The doctor then sent Mr. Redding to you for treatment.

You examine the ankle and find it badly swollen and extremely bruised.

Question 4

With no further information, what treatment or treatments would you recommend?

a. William's Flexion Exercise Program

b. Ultrasound

c. Electrical Stimulation

d. Cold Packs

e. Hot Packs

The correct answers are (b) and (c). Both are indicated by bruising and swelling. (e) is incorrect because hot packs tend to increase swelling, while cold packs tend to reduce swelling. Answer (a) deals with an exercise program to strengthen abdominal muscles. Electrical stimulation is to relax over-tensed muscles, not to help sprained muscles.

Give yourself one (+) for either (b) or (d), and two (+'s) for (b) and (d).

One of the doctors in your hospital sends Ken Johnson to get treatment. Ken hurt his knee playing football. The knee is red and swollen. X-rays were taken by the doctor and show that nothing is torn or broken.

Question 5

With the above information and your knowledge of possible treatments, which of the following treatments would you reccommend.

a. Ultrasound

b. Hot Packs

c. Cold Packs

d. Electrical Stimulation

e. Exercises

You may have more than one correct answer

The correct answers are (a), (c), and (e). Again cold packs are used to reduce the swelling. The other answers are basically the same as in the previous case.

Ice, like heat, causes an erytheme (redness of the skin due to increased circulation). This erytheme makes ultrasound 30% more effective for treatment. To get a good erytheme, cold pack would be applied for 20-30 minutes. Ther the therapist would apply a low current ultrasound for about five mirutes.

The patient would also be taught exercises to help reduce the swelling and to strengthen the muscles in the leg.

This helps support the knee while it heals. Eventually the patient can try total weight bearing. He would continue the exercises for quite some time to maintain the strength and support he has built up.

Mrs. Williams suffered a broken hip at the age of 78. A total hip replacement had to be performed. This is a total rebuilding of the ball and socket joint of the hip with either a metal or a plastic ball and socket.

This type of case requires intensive rehabilitation. The patient is only allowed two to three days for recovery from surgery before treatment is begun.

A new piece of equipment is used to start treatment; a tilt table. This table is used to assist her in standing. She is strapped to the bed in the horizontal position and then the bed is slowly tilted to the vertical position so that the patient is standing up straight.

Question 6

Considering the short time which has elapsed since surgery, which do you think will be the most important treatment in this case?

a. Cold Packs

b. Ultrasound

c. Electrical Stimulation

d. Exercise

e. Whirlpool

The correct answer is (d). Give yourself one (+) if you had answer (d) on your answer sheet.

The exercises are all designed to help Mrs. Williams gain the strength necessary for using a walker. A walker is shown on page 18. It helps the patient bear her weight because she can use her arms as well as her legs. A younger person might be taught to use crutches for this same reason. A walker provides greater stability for an older person.

There are many reasons for getting Mrs. Williams up so soon after surgery. A person who stays in bed for more than a day or two will find that their muscles rapidly become weak. In addition, a patient who has had surgery may develop pheumonia unless they change positions often. Joints and muscles become stiff and tight if they are not used daily.

Question 7

Because a physical therapist will receive referrals on patients shortly after surgery he needs to know:

a. what joint motions will benefit the patient and what movements are likely to injure the surgical site.

b. how to perform various surgical procedures

c. exercises which greatly help the patient to use all muscles and joints

d. how to remove stitches

Answers (a) and (c) are both correct. Give yourself one (+) for each correct letter you put on your answer sheet. Both (b) and (d) are duties of the doctor.

Now let's talk about another case that Mr. Parker is handling.

The use of cold packs and the ultrasound make Mrs. Eaton more comfortable. When her pain is no longer severe she will be taught exercises to help her regain full use of her shoulder joint. She does this herself so that when it starts hurting, she can stop it. If she were to move the joint too far she could cause more damage to the joint. Sometimes motion in the joint will remain poor even after all the pain is gone. When this happens it is necessary to use a pulley.

A pulley is put in the ceiling. A rope runs through the pulley. Mrs. Eaton slips her wrist through a loop in the rope and uses her good arm to raise and lower her weak arm with the pulley. She can maintain the motion the therapist gains by doing this and any other exercises he has shown her.

Mrs. Eaton is referred by her doctor. His record states that she has bursitis. Jim knows that bursitis is an inflamation of the sac around a cavity in the body. In this case, the bursitis is in Mrs. Eaton's shoulder. Her shoulder hurts and she cannot move her arm on that side very well. For example, it hurts very badly when she reaches over her head.

The first treatment Jim uses is cold packs. These help by numbing the area and thus reducing the pain.

Question 3

The next treatment used will be ultrasound. Ultrasound helps by:

a. relaxing the surrounding muscles

b. reducing swelling

c. causing involuntary muscle movements

d. reducing the inflamation in and around the joint

Answer (d) is most correct. Answer (b) is also correct, although it is not the primary effect of ultrasound therapy. Give yourself one (+) for each of these letters you wrote on your answer sheet.

Answer (a) is incorrect. Relaxation of surrounding muscles would be achieved by electrical stimulation. The same is true of answer (c).

Below is a picture of Mrs. Eaton using her pulley.

Question 9

Mr. Parker needs to use pulleys from time to time in his work. The science which deals with pulleys is:

a. Biology

b. Physiology

c. Astrology

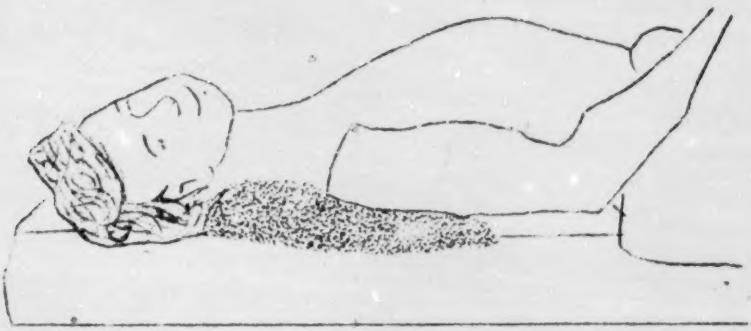
d. Physics

Answer (d) is correct. Give yourself one (+) if this is the answer you chose.

Answers (a), (b), and (c) deal with other topics. Biology is the study of life, both plant and animal forms. Physiology is the study of the function of various organs and parts of animal (including human) bodies. Astrology is not considered a true science by many. It is concerned with how a person's life is affected by the stars.

Gene Daniels is hospitalized with severe neck pain. The pain also goes down his arms and into his fingers.

Cold packs are used at first to numb the neck and reduce his pain. He is given a tension pillow which keeps his neck in a better position and helps reduce muscle tension in his neck. See the illustration below which shows the shape of a tension pillow.



Mr. Daniels is also given cervical traction to use for part of each day. As you can see from the picture on page 30, cervical traction pulls up on the neck to relieve pressure on the nerves to his arms and fingers.

When the pain is nearly gone, Mr. Parker prescribes electrical stimulation and moist heat packs. The electrical stimulation relieves the muscle spasms in Mr. Daniels' neck. The heat packs help the soreness and generally make movement easier.

Question 18

Which of the following do you think Jim will do before sending Mr. Daniels home?

a. Tell him not to turn his head from side to side.

b. Teach him to stand on his head to increase the circulation in his neck.

c. Teach him exercises to maintain the motion in his neck that he has now achieved.

d. Teach Mrs. Daniels to pull up on her husbands neck like the traction does.

If you chose answer (c) you have answered correctly. Give yourself one (+) for this answer.

Answer (a) is not right because you want him to maintain any motion he has regained. Standing on his head would put more pressure on the damaged structures in his neck and would therefore be incorrect. The last is still needed, Mr. Daniels would be kept in the hospital or given a home traction set. It would be very easy for Mrs. Daniels to pull at the wrong angle and cause more damage to her husband's neck.

Now count your plusses and write the number you earned on the line marked "Total Number of Plusses." You could have earned as many as 18. If you earned 13 plusses or more, you have been successful in your work as a physical therapist.

If you enjoyed doing the work in this kit and if you like thinking your way through problems and working with people, you might want to know more about how to become a physical therapist.

If you want to learn more about this profession, here are some questions you might ask:

a. What are some different ways for a physical therapist to practice? Which ways offer the greatest opportunities?
b. What chances are there for advancement?
c. What education is required for work in different areas of physical therapy?
d. What salary can a physical therapist expect to earn?
e. Will the salary increase with increased training or educatin?

ANSWER SHEET

The dotted lines are for your plusses.

1. _____ .....
2. _____ .....
3. _____ .....
4. _____ .....
5. _____ .....
6. _____ .....
7. _____ .....
8. _____ .....
9. _____ .....
10. _____ .....

Total Number of Plusses.....

This kit was not intended to be a totality of information about a physical therapist, but merely a segment out of the life of any physical therapist through the country. If the work in this kit interested you, you might be interested in doing further research to find out more about this career.

Here are a few of the places you can write to find out more about this career.

American Hospital Association
840 North Lake Shore Drive
Chicago, Illinois 60611

American Physical Therapy Asso.
1156 15th Street N.W.
Washington, D.C. 20005

Ask your counselor for information

Talk to a physical therapist. See If you can visit him while he works.

ACKNOWLEDGEMENTS

The Project presented or reported herein was performed pursuant to a Grant from the U.S. Office of Education; Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

Cover Illustration by Deana Petro
Cover Printing by Dan Petro

Dr. Howard Acott, Director
San Juan Basin Area Vocational-Technical School

For additional information on these projects, write or call: (303) 565-9232.

Dr. William J. Nelson
Director of Career Education
San Juan Basin Area Vocational Technical School
P.O. Box 970
Cortez, CO 81321

Mr. Dan Petro
Coordinator of Career Education
San Juan Basin Area Vocational-Technical School
P.O. Box 970
Cortez, CO 81321